Atty. Docket No.: SOHMEI.PT1012

Customer No.: 24943

WHAT IS CLAIMED IS:

- 1 1. A porous metal oxide material in a flake form having a
- 2 specific surface area of 110 to $3000 \text{ m}^2/\text{g}$, an average particle
- 3 diameter of 5 to $500\mu m$, an average thickness of 0.10 to $5\mu m$,
- 4 and an average aspect ratio of 5 to 300.
- 1 2. The porous metal oxide material in a flake form according
- 2 to Claim 1, wherein the porous metal oxide material in a flake
- 3 form has a peak fine pore diameter of 2 to 20 nm.
- 1 3. The porous metal oxide material in a flake form according
- 2 to Claim 1 or 2, wherein the porous metal oxide material in
- 3 a flake form is obtained by applying a colloid solution
- 4 containing colloidal particles of the metal oxide having a
- 5 particle diameter of 5 to 500 nm on a substrate, drying to solidify
- 6 the colloid solution, delaminating the resultant solid from
- 7 the substrate, and heating the solid.
- 1 4. The porous metal oxide material in a flake form according
- 2 to Claim 1, wherein the porous metal oxide material in a flake
- 3 form primarily contains at least one kind selected from the
- 4 group consisting of silicon dioxide (SiO₂), magnesium oxide
- 5 (MqO), aluminum oxide (Al₂O₃), zirconium oxide (ZrO₂), zinc oxide
- 6 (ZnO), chrome oxide (Cr_2O_3), titanium dioxide (TiO_2), antimony
- 7 trioxide (Sb_2O_3) , and iron oxide (Fe_2O_3) .

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- 1 5. The porous metal oxide material in a flake form according
- 2 to Claim 4, wherein the metal oxide material is silicon dioxide
- 3 or primarily contains silicon dioxide.
- 1 6. A carrier formed by carrying an odorant, a coloring agent,
- 2 an antibacterial agent or a catalyst in the fine pores of the
- 3 porous metal oxide material in a flake form according to Claim
- 4 1.
- 1 7. A cosmetic comprising the porous metal oxide material
- 2 in a flake form according to Claim 1.
- 1 8. The cosmetic according to Claim 7, wherein the cosmetic
- 2 contains the flake form of 0.1-95 % by weight.
- 9. A cosmetic comprising the carrier according to Claim 6.
- 1 10. A coating composition comprising the porous metal oxide
- 2 material in a flake form according to Claim 1.
- 1 11. A coating composition comprising the carrier according
- 2 to Claim 6.
- 1 12. A resin composition comprising the porous metal oxide

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- 2 material in a flake form according to Claim 1.
- 1 13. A resin composition comprising the carrier according to
- 2 Claim 6.
- 1 14. A resin molded body molded by using the resin composition
- 2 according to Claim 12 or 13.
- 1 15. An ink composition comprising the carrier according to
- 2 Claim 6.
- 1 16. A paper comprising the porous metal oxide material in
- 2 a flake form according to Claim 1.
- 1 17. A method for producing a porous metal oxide material in
- 2 a flake form according to any one of Claim 1 or Claim 2, which
- 3 comprises:
- 4 applying a colloid solution containing colloidal
- 5 particles of the metal oxide having a particle diameter of 5
- 6 to 500 nm on a substrate;
- 7 drying to solidify the colloid solution;
- 8 delaminating the resultant solid from the substrate; and
- 9 heating the solid.

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1 18. The method for producing the porous metal oxide material

- 2 in a flake form according to Claim 11, wherein the porous metal
- 3 oxide material in a flake form primarily contains at least one
- 4 kind selected from the group consisting of silicon dioxide (SiO₂),
- 5 magnesium oxide (MgO), aluminum oxide (Al₂O₃), zirconium oxide
- 6 (ZrO_2) , zinc oxide (ZnO), chrome oxide (Cr_2O_3) , titanium dioxide
- 7 (TiO₂), antimony trioxide (Sb₂O₃), and iron oxide (Fe₂O₃).